

STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

K00002119 Lab ID:

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002119001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 4.0

Sampler Project Name: TVA-Ash Spill

Date/Time Collected:

Project Site No.:

Station No.:

EMORY004.0RO

Sampler's Name:

01/20/2009 13:15 Larry Everett

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	15	mg/L	3.8	10	M Chen	1/22/2009

Field Determinations

Dissolved Oxygen: 12.99

Chlorine, residual:

Conductivity:

Temperature:

7.83

40

2.1

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	1/23/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U .	ml/L	0.10	0.10	S Burchfield	1/22/2009	

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT UNITS MDL		MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	U	mg/L	10	10	S Burchfield	1/24/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119002

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA-Ash Spill

Emory River mile 2.1

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

01/20/2009 13:45

County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20 **TDEC-WPC**

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009

13:45

Received By:

Ken Hitchman

TEST: Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	1/22/2009

Field Determinations

Dissolved Oxygen: 11.63

Chlorine, residual:

Conductivity:

Temperature:

7.44

48

3.48

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	18	mg/L	0.7	1	M Chen	1/23/2009	

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS MDL		MQL	ANALYZED BY:	DATE	
Settleable Residue	0.2	ml/L	0.10	0.10	S Burchfield	1/22/2009	

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT	ILT UNITS MDL		MQL	ANALYZED BY:	DATE	
Total Suspended Solids	77	mg/L	10	10	S Burchfield	1/24/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119003

Project Name:

TVA-Ash Spill

Sample Description:

I VA-ASTI SPIII

Sampler Project Name: TVA-Ash Spill

Emory River mile 1.7

Project Site No.:

3

Station No.:

EMORY001.7RO

Date/Time Collected:

01/20/2009 13:55

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Alkalinity, Total	ME	THOD: EPA 31			<u></u>	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	95	ma/L	3.8	10	M Chen	1/22/2009

Field Determinations

Dissolved Oxygen: 10.55

Chlorine, residual:

Conductivity:

Temperature:

7.71

162

5.40

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	74	mg/L	0.7	1	M Chen	1/23/2009	

TEST: Residue, Settleable	ME:	THOD: SM 254					
ANALYTE	RESULT	RESULT UNITS MDL		MQL	ANALYZED BY:	DATE	
Settleable Residue	0.1	ml/L	0.10	0.10	S Burchfield	1/22/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	32	mg/L	10	10	S Burchfield	1/24/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA-Ash Spill **Project Site No.:**

Station No.:

EMORY000.1RO

Date/Time Collected:

01/20/2009 14:10

Sampler's Name:

Larry Everett

County: Sample Matrix: **ROANE - 73**

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

Field Determinations

pH:

7.85

pH Units

Chlorine, residual:

Conductivity:

179 5.44 **uMHO**

Temperature: Dissolved Oxygen: 10.28

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	1/22/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	82	mg/L	0.7	1	M Chen	1/23/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.8	ml/L	0.10	0.10	S Burchfield	1/22/2009

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	190	mg/L	10	10	S Burchfield	1/24/2009

J - Estimated value between MDL and MQL

MDL. - Method Detection Limit

MQL - Method Quantitation Limit

K00002119005

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA-Ash Spill

Clinch River mile 2.3 near Hwy 70 bridge

Project Site No.:

5

Station No.:

CLINC002.3RO

Date/Time Collected:

01/20/2009 14:50

Sampler's Name: County:

Larry Everett ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Alkalinity, Total ANALYTE	ME.					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	1/22/2009

Field Determinations

Dissolved Oxygen: 11.21

Chlorine, residual:

Conductivity:

Temperature:

7.79

162

7.18

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	79	mg/L	0.7	1	M Chen	1/23/2009

TEST: Residue, Settleable	ME	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	1/22/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	S Burchfield	1/24/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119006

Project Name:

TVA-Ash Spill

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual: Sampler Project Name: TVA-Ash Spill

Project Site No.:

Station No.:

Date/Time Collected:

CLINC004.5RO 01/20/2009 15:05

Sampler's Name:

Larry Everett

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Alkalinity, Total	ME ⁻					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	120	mg/L	3.8	10	M Chen	1/22/2009

Field Determinations

Dissolved Oxygen: 10.27

Conductivity:

Temperature:

7.91

195

5.82

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	82	mg/L	0.7	1	M Chen	1/23/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	1/22/2009

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	S Burchfield	1/24/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



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TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

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Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

Lab ID: K00002119

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002119001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 4.0

Sampler Project Name: TVA-Ash Spill

Project Site No.:

Date/Time Collected:

1

Station No.:

EMORY004.0RO

Sampler's Name:

01/20/2009 13:15

County:

Larry Everett **ROANE - 73**

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC **TDEC-WPC**

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/22/2009				A Wilson	1/22/2009

Field Determinations

Dissolved Oxygen: 12.99

Chlorine, residual:

Conductivity:

Temperature:

7.83

40

2.1

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: ICP	MET	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	170	μg/L	2.9	10	A Bass	1/23/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	μg/L	6.4	10	M Pattanayek	1/24/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	1/24/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	1/24/2009
Barium	24	μg/ i _	2.5	5	M Pattanayek	1/24/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/24/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/24/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/24/2009
Cobalt	0.34J	μg/L	0.04	1	M Pattanayek	1/24/2009
Copper	2.9	μg/L	0.38	1	M Pattanayek	1/24/2009
Lead	0.34J	μg/L	0.10	1	M Pattanayek	1/24/2009
Manganese	48	μg/L	0.42	1	M Pattanayek	1/24/2009
Nickel	1.3	μg/L	0.25	1	M Pattanayek	1/26/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/24/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	1/26/2009
Thallium	1.2	μg/L	0.03	1	M Pattanayek	1/24/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/24/2009
Zinc	6.2	μg/L	1.9	5	M Pattanayek	1/24/2009

K00002119001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 4.0

Sampler Project Name: TVA-Ash Spill

Project Site No.:

Station No.:

EMORY004.0RO

Date/Time Collected:

01/20/2009 13:15

Sampler's Name: County:

Larry Everett **ROANE - 73**

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC **TDEC-WPC**

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

рH:	7.83
01.1	

Chlorine, residual:

Field Determinations

Conductivity: 40

uMHO

pH Units

Temperature:

2.1

Dissolved Oxygen: 12.99 mg/L

Other:

Flow:

CFS

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA-Ash Spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

01/20/2009 13:45

Sampler's Name:

Larry Everett

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

Field Determinations

pH:

7.44

pH Units

Chlorine, residual:

Conductivity:

48

uMHO

Temperature:

3.48 Dissolved Oxygen: 11.63

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/22/2009				A Wilson	1/22/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	1400	µg/L	2.9	10	A Bass	1/23/2009	

TEST: ICP-MS	WE.	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	2800	μg/L	32.0	50	M Pattanayek	1/26/2009
Antimony	0.34J	μg/L	0.33	1	M Pattanayek	1/24/2009
Arsenic	8.8	μg/L	0.93	5	M Pattanayek	1/24/2009
Barium	79	μg/L	2.5	5	M Pattanayek	1/24/2009
Beryllium	0.56J	μg/L	0.11	1	M Pattanayek	1/24/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/24/2009
Chromium	3.7J	μg/L	2.0	5	M Pattanayek	1/24/2009
Cobalt	2.1	μg/L	0.04	1	M Pattanayek	1/24/2009
Copper	7.3	μg/L	0.38	1	M Pattanayek	1/24/2009
Lead	3.8	μg/L	0.10	1	M Pattanayek	1/24/2009
Manganese	61	μg/L	0.42	1	M Pattanayek	1/24/2009
Nickel	4.4	μg/L	0.25	1	M Pattanayek	1/26/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/24/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	1/26/2009
Thallium	0.55J	μg/L	0.03	1	M Pattanayek	1/24/2009
Vanadium	11	μg/L	3.4	5	M Pattanayek	1/24/2009
Zinc	8.4	μg/L	1.9	5	M Pattanayek	1/24/2009

K00002119002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA-Ash Spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

01/20/2009 13:45

Sampler's Name: County:

Larry Everett

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code: Send Report To: **TDEC-WPC** 327.34-20

Agency Invoiced:

TDEC-WPC **TDEC-WPC**

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

Field Determinations

Dissolved Oxygen: 11.63

Chlorine, residual:

Conductivity:

Temperature:

7.44

48

3.48

pH Units

uMHO

mg/L

CFS

:Hq

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002119003

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA-Ash Spill

Emory River mile 1.7

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected:

01/20/2009 13:55

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

Field Determinations

pH:

7.71 pH Units

Chlorine, residual:

Conductivity:

162 5.40

Temperature: **Dissolved Oxygen: 10.55** mg/L

Other:

Flow:

CFS

uMHO

TEST: Digestion Metals	MET	THOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/22/2009				A Wilson	1/22/2009

TEST: ICP	WE	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	230	μg/L	2.9	10	A Bass	1/23/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	220	μg/L	6.4	10	M Pattanayek	1/24/2009
Antimony	1.1	μg/L	0.33	1	M Pattanayek	1/24/2009
Arsenic	1.4J	μg/L	0.93	5	M Pattanayek	1/24/2009
Barium	39	μg/L	2.5	5	M Pattanayek	1/24/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/24/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/24/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/24/2009
Cobalt	0.36J	μg/L	0.04	1	M Pattanayek	1/24/2009
Copper	2.4	μg/L	0.38	1	M Pattanayek	1/24/2009
Lead	0.65J	μg/L	0.10	1	M Pattanayek	1/24/2009
Manganese	40	μg/L	0.42	1	M Pattanayek	1/24/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	1/26/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/24/2009
Silver	0.03J	μg/L	0.03	0.25	M Pattanayek	1/26/2009
Thallium	0.47J	μg/L	0.03	1	M Pattanayek	1/24/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/24/2009
Zinc	3.6J	μg/L	1.9	5	M Pattanayek	1/24/2009

K00002119003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA-Ash Spill

Project Site No.:

EMORY001.7RO

Date/Time Collected:

01/20/2009 13:55

Sampler's Name: County:

Larry Everett

Sample Matrix:

Station No.:

ROANE - 73 Water

EFO: **Sampling Agency:** Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

01/21/2009 13:45

Received By:

TEST: Mercury

Ken Hitchman

					
ME.	THOD: EPA 245.	1			
LT	UNITS	MDL	MQL	ANALYZED BY:	DATE

Field Determinations

Dissolved Oxygen: 10.55

Chlorine, residual:

Conductivity:

Temperature:

7.71

162

5.40

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE RESUL 0.2 U μg/L 0.13 A Wilson 1/23/2009 Mercury J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002119004

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA-Ash Spill

Emory River mile 0.1

Project Site No.:

Station No.:

EMORY000.1RO **Date/Time Collected:** 01/20/2009 14:10

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 **TDEC-WPC** TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

Field Determinations

:Hq

7.85

179

pH Units

Chlorine, residual: Conductivity:

uMHO

Temperature:

5.44

Dissolved Oxygen: 10.28

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/22/2009				A Wilson	1/22/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	980	μg/L	2.9	10	A Bass	1/23/2009	

TEST: ICP-MS	ME	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	980	μg/L	12.8	20	M Pattanayek	1/26/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	1/24/2009
Arsenic	3.3J	μg/L	0.93	5	M Pattanayek	1/24/2009
Barium	58	μg/L	2.5	5	M Pattanayek	1/24/2009
Beryllium	0.21J	μg/L	0.11	1	M Pattanayek	1/24/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/24/2009
Chromium	2.0J	μg/L	2.0	5	M Pattanayek	1/24/2009
Cobalt	1.0	μg/L	0.04	1	M Pattanayek	1/24/2009
Copper	4.7	μg/L	0.38	1	M Pattanayek	1/24/2009
Lead	1.7	μg/L	0.10	1	M Pattanayek	1/24/2009
Manganese	78	μg/L	0.42	1	M Pattanayek	1/24/2009
Nickel	2.1	μg/L	0.25	1	M Pattanayek	1/26/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/24/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	1/26/2009
Thallium	0.25J	μg/L	0.03	1	M Pattanayek	1/24/2009
Vanadium	4.0J	μg/L	3.4	5	M Pattanayek	1/24/2009
Zinc	7.0	μg/L	1.9	5	M Pattanayek	1/24/2009

K00002119004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA-Ash Spill

Project Site No.: Station No.:

Date/Time Collected:

EMORY000.1RO

Sampler's Name:

01/20/2009 14:10

County:

Larry Everett ROANE - 73

Sample Matrix:

Water

EFO:

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20

Agency Invoiced:

TDEC-WPC **TDEC-WPC**

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

TEST: Mercury

Ken Hitchman

ME	THOI): E	PA 2	45.1

Field Determinations

Dissolved Oxygen: 10.28

Chlorine, residual:

Conductivity:

Temperature:

7.85

179

5.44

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119005

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3 near Hwy 70 bridge

Sampler Project Name: TVA-Ash Spill

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

01/20/2009 14:50

County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	01/22/2009				A Wilson	1/22/2009	

Field Determinations

Dissolved Oxygen: 11.21

Chlorine, residual:

Conductivity:

Temperature:

7.79

162

7.18

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: ICP	MET	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	170	μg/L	2.9	10	A Bass	1/23/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	130	μg/L	6.4	10	M Pattanayek	1/24/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	1/24/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	1/24/2009
Barium	34	μg/L	2.5	5	M Pattanayek	1/24/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/24/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/24/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/24/2009
Cobalt	0.22J	μg/L	0.04	1	M Pattanayek	1/24/2009
Copper	1.8	μg/L	0.38	1	M Pattanayek	1/24/2009
Lead	0.36J	μg/L.	0.10	1	M Pattanayek	1/24/2009
Manganese	39	μg/L	0.42	1	M Pattanayek	1/24/2009
Nickel	0.87J	μg/L	0.25	1	M Pattanayek	1/26/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/24/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	1/26/2009
Thallium	0.12J	μg/L	0.03	1	M Pattanayek	1/24/2009
Vanadium	Ū	μg/L	3.4	5	M Pattanayek	1/24/2009
Zinc	2.6J	μg/L	1.9	5	M Pattanayek	1/24/2009

K00002119005

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3 near Hwy 70 bridge

Sampler Project Name: TVA-Ash Spill

5

Project Site No.: Station No.:

CLINC002.3RO

Date/Time Collected:

01/20/2009 14:50

Sampler's Name:

Larry Everett

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced: Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Mercury	ME	ΓHOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

Field Determinations

Dissolved Oxygen: 11.21

Chlorine, residual:

Conductivity:

Temperature:

7.79

162

7.18

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002119006

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA-Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 10.27

Conductivity:

Temperature:

7.91

195

5.82

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected: Sampler's Name:

01/20/2009 15:05

County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT UNITS MDL		MQL	ANALYZED BY:	DATE	
Digestion Metals	01/22/2009			****	A Wilson	1/22/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	190	μg/L	2.9	10	A Bass	1/23/2009

TEST: ICP-MS	METHOD: EPA 200.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	120	μg/L	6.4	10	M Pattanayek	1/24/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	1/24/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	1/24/2009
Barium	34	μg/L	2.5	5	M Pattanayek	1/24/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/24/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/24/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/24/2009
Cobalt	0.21J	μg/L	0.04	1	M Pattanayek	1/24/2009
Copper	1.1	μg/L	0.38	1	M Pattanayek	1/24/2009
Lead	0.36J	μg/L	0.10	1	M Pattanayek	1/24/2009
Manganese	50	μg/L	0.42	1	M Pattanayek	1/24/2009
Nickel	0.85J	μg/L	0.25	1	M Pattanayek	1/26/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/24/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	1/26/2009
Thallium	0.10J	μg/L	0.03	1	M Pattanayek	1/24/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/24/2009
Zinc	2.5J	μg/L	1.9	5	M Pattanayek	1/24/2009

Sample Description:

K00002119006

Project Name:

TVA-Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

Field Determinations

Dissolved Oxygen: 10.27

Conductivity:

Temperature:

pH:

Other:

Flow:

7.91

195

5.82

pH Units

uMHO

mg/L

CFS

Sampler Project Name: TVA-Ash Spill

Project Site No.:

6

Station No.:

CLINC004.5RO

Date/Time Collected:

01/20/2009 15:05

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

01/21/2009 13:45

Received By:

Ken Hitchman

TEST: Mercury						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit